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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/603,062	06/26/2000	Beong-Jo Kim	678-505 (P9425/IMT)	3341
28249	7590	11/28/2005	EXAMINER	
DILWORTH & BARRESE, LLP 333 EARLE OVINGTON BLVD. UNIONDALE, NY 11553			TRAN, THIEN D	
			ART UNIT	PAPER NUMBER
			2665	

DATE MAILED: 11/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

*Supplemental*  
**Office Action Summary**

Application No.

09/603,062

Applicant(s)

KIM ET AL.

Examiner

Thien D Tran

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 18 August 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3, 5-10 and 12-20 is/are rejected.
- 7) ☒ Claim(s) 4 and 11 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 03/10/04 12-19-03

- 4) ☒ Interview Summary (PTO-413)  
Paper No(s)/Mail Date 10/06/2005
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

### DETAILED ACTION

1. The office action mailed on 07/26/2005 is hereby withdrawn.

#### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over participated by Park et al (U.S Patent No. 6,397,367).

Regarding claims 1-3, 5-10, 12-20, Park et al discloses a channel coding and multiplexing apparatus in a CDMA communication system, in which data frames that may have different data rate (transmission time intervals) are received in parallel via a plurality of transport channels and multiplexed to form a serial data frame (col.5.line 55-col.6 line 30, figure 15), the apparatus comprising:

a number of radio frame matchers, the number of radio frame matchers being at least equal to the number of transport channels, each radio frame matcher for receiving a data frame (figure 15); and

a multiplexer 1505 for multiplexing the radio frames to form the serial data frame.

See col.14 lines 20-45.

Regarding claim 2, Park et al discloses that each radio frame matcher determines the bit number of a radio frame according to the size of an input transport channel frame and the TTI of a radio frame and divides the data frame by the bit number of the radio frame. See col.9 lines 10-35.

Regarding claims 3, 10, Park et al discloses that each radio frame matcher further includes an interleaver for interleaving an input transport channel frame and applying the interleaved frame to a corresponding radio frame. See col.11 lines 50-60.

Regarding claim 5, Park et al discloses that the radio frame matchers are connected between channel coders and the multiplexer in an uplink channel-transmitting device, and each of the radio frame matchers of the uplink channel transmitting device comprises:

- an interleaver for interleaving an input transport channel frame (col.14 lines 25-30);

- a radio frame matcher for determining the bit number of a radio frame according to the size of the input transport channel frame and a radio frame and dividing the data frame by a variable, said variable being a function of the radio frame; and

- a rate matcher for adjusting the data rate of a radio frame by puncturing and repeating parts of the radio frame to match the data rate of the radio frame to that of a physical channel frame. See col.14 lines 15-55.

Regarding claims 6, 12, Park et al discloses that the radio frame matchers are connected between channel coders and a multiplexer in a downlink channel transmitting

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device, and each of the radio frame matchers of the downlink channel transmitting device comprises:

- an interleaver for interleaving an input transport channel frame;

- a radio frame matcher for determining the bit number of a radio frame according to the size of the input transport channel frame and a radio frame TTI and dividing the data frame by a variable, said variable being a function of the radio frame. See col.14 lines 10-40.

Regarding claims 9, 16, Park et al discloses channel coding and multiplexing method in a CDMA communication system, in which data frames that have one or more transmission time intervals are received in parallel via a plurality of transport channels and converted to data frames of multi-code physical channels, the method comprising the steps of:

- receiving data frames;

- determining a number of insertion bits (filler bits);

- inserting the filler bits into the data frames;

- fillingr bits into radio frames in a number of radio frame matchers, the number of radio frame matchers being at least equal

- to the number of transport channels;

- multiplexing the radio frames to form a serial data frame;

- serializing data frame by the number of the physical channels; and

- assigning the segmented physical channel frames to the corresponding physical channels. See col.12 lines 55-col.13 lines 45, figure 15.

Regarding claims 17, 18, Park et al discloses the coding system for transmitting frame data as similar to the above claims. Therefore, it would have been obvious to have the decoding system for the channel-receiving device for desegmenting a received serial data frame to a plurality of transport channel frames in a CDMA communication system comprising:

- a physical channel desegmenter for desegmenting data frames received via multi-code physical channels to a serial data frame;

- a demultiplexer for demultiplexing the serial data frame to radio frames of a plurality of transport channels; and

- a plurality of radio frame dematchers, the number of radio frame dematchers being at least equal to the number of transport channels, each radio frame dematcher having, a radio frame desegmenter for receiving the corresponding radio frames and for desegmenting the radio frames to data frames of the transport. See col.15 lines 1-30, figure 16.

Regarding claim 19, Park discloses a channel coding and multiplexing apparatus in a CDMA communication system, in which data frames that have one or more user data rates (transmission time intervals) are received in parallel via a plurality of transport channels, figure 13, and converted to data frames of multi-code physical channels 1301, 1311 and 1312, figure 13, the apparatus comprising:

- a plurality of radio frame elements 1301-1304, 1311-1314, 1321-1324 (matcher), hereinafter matcher, each of the radio frame matchers for determining a number of insert bits (filler bits) and inserting the determined number of the insert bits into the data

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frames and each of the radio frame matchers, col.10 lines 10-30, each of the radio frame matchers comprising a radio frame repeater and puncturer for receiving the data frames and for matching the data frames having the filler bit into radio frames, col.10 lines 30-45; and

a multiplexer for multiplexing the radio frames to form a serial data frame, wherein the number of insert bits are determined such that the insert bit inserted data frames can be matching into a given channel user symbol rate (equally sized radio frames), col.10 lines 30-45.

Regarding claim 20, Park discloses a channel coding and multiplexing method in a CDMA communication system, in which data frames that have one or more user data rates (transmission time intervals) are received in parallel via a plurality of transport channels, figure 13, and converted to data frames of multi-code physical channels 1301, 1311 and 1312, figure 13, the method comprising:

receiving data frames, figure 13;

determining a number of insert bits (filler bits), col.10 lines 10-30;

inserting the insert bits into the data frames, col.10 lines 10-30;

matching the data frames including the filler bits into radio frames in a number of radio frame matchers, the number of radio frame matchers being at least equal to the number of transport channels, col.10 lines 30-45; and

multiplexing the radio frames to form a serial data frame,

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wherein the number of insert bits are determined such that the insert bit inserted data frames can be matched into a given channel user symbol rate (equally sized radio frames), col.10 lines 30-45.

Park does not disclose that the CDMA system having a frame segmenter for segmenting data frames. However, it would have been obvious to one having ordinary skill in the art to have the feature of segmenting data frame park's cdma system so that data frames can be processed properly in the coding channels.

#### ***Allowable Subject Matter***

4. Claims 4, 11 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

#### ***Conclusion***

5. Any inquiry concerning this communication or earlier communication from the examiner should be directed to Thien Tran whose telephone number is (571) 272-3156. The examiner can normally be reached on Monday-Friday from 8:30AM to 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu, can be reached on (571) 272-3155. Any inquiry of a general nature of relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (571) 272-2600.



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6. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have any questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197.

Patent Examiner

**DUCHO**  
**PRIMARY EXAMINER**

Thien Tran



10-17-05